BACKGROUND
NOTE

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A Note on Distributive Effects of Fiscal Policy in El Salvador - 2023[1]

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1. This note was prepared by Wilson Jimenez and Hugo Ñopo.

Abstract

Fiscal policy in El Salvador has the capacity to consolidate economic growth, providing greater resilience to the population against possible risks or boosting income generation. This note analyzes the impact of subsidies for energy, water and liquefied petroleum gas (LPG), on poverty and household welfare. We use the Commitment to Equity (CEQ) approach with data from the Multipurpose Household Survey of El Salvador (EHPM) to simulate different policy scenarios. The results indicate that if subsidies were eliminated, poverty would increase by 1.3 percentage points and extreme poverty by 0.5 percentage points, negatively affecting the welfare of families. However, in the scenario where the elimination of subsidies is accompanied by an increase of other social transfers, are transformed into targeted subsidies, or the previous scenarios are combined, the impact on poverty could be mitigated. These results show that there is room for efficiency gains on the goal of improving households' welfare and promoting equitable results.

I.

Introduction

With the recent substantial reduction in gang activities and crime, the Government of El Salvador faces a unique opportunity in the next five years to consolidate economic growth and improve people's well-being by reducing poverty and vulnerabilities. This opportunity arises with a challenge, as fiscal space for social spending is not ample. In this sense, it becomes key to establish a sustainable, equitable, effective, and efficient fiscal policy to strengthen the resilience of the population against climate and social risks, thereby enhancing their capabilities for income generation, aspects that are shared by the World Bank Group (WBG).

To explore plausible improvements in fiscal policy, analytical tools are required to evaluate the expected effects of alternative policies that affect household well-being along the income distribution. This note assesses the effects and distributional incidence of some key fiscal policy interventions in El Salvador. This is done under the Commitment to Equity (CEQ) approach, using EHPM 2023. This note describes a base scenario of the Salvadorans' income distribution, assuming it as the outcome of the fiscal policies in place up to 2023. Upon this, we present simulations of plausible distributional effects derived from the elimination of fuel subsidies and compensations through social transfers.

This report presents viable options for fiscal reform to eliminate or at least reduce the magnitude of subsidies for LPG, water, and electricity. When subsidies are eliminated and there are no compensatory measures, about 21,000 households enter poverty and more than 10,000 enter extreme poverty. This situation can be reversed when transfers to households are expanded using the fiscal savings from the subsidy reform.
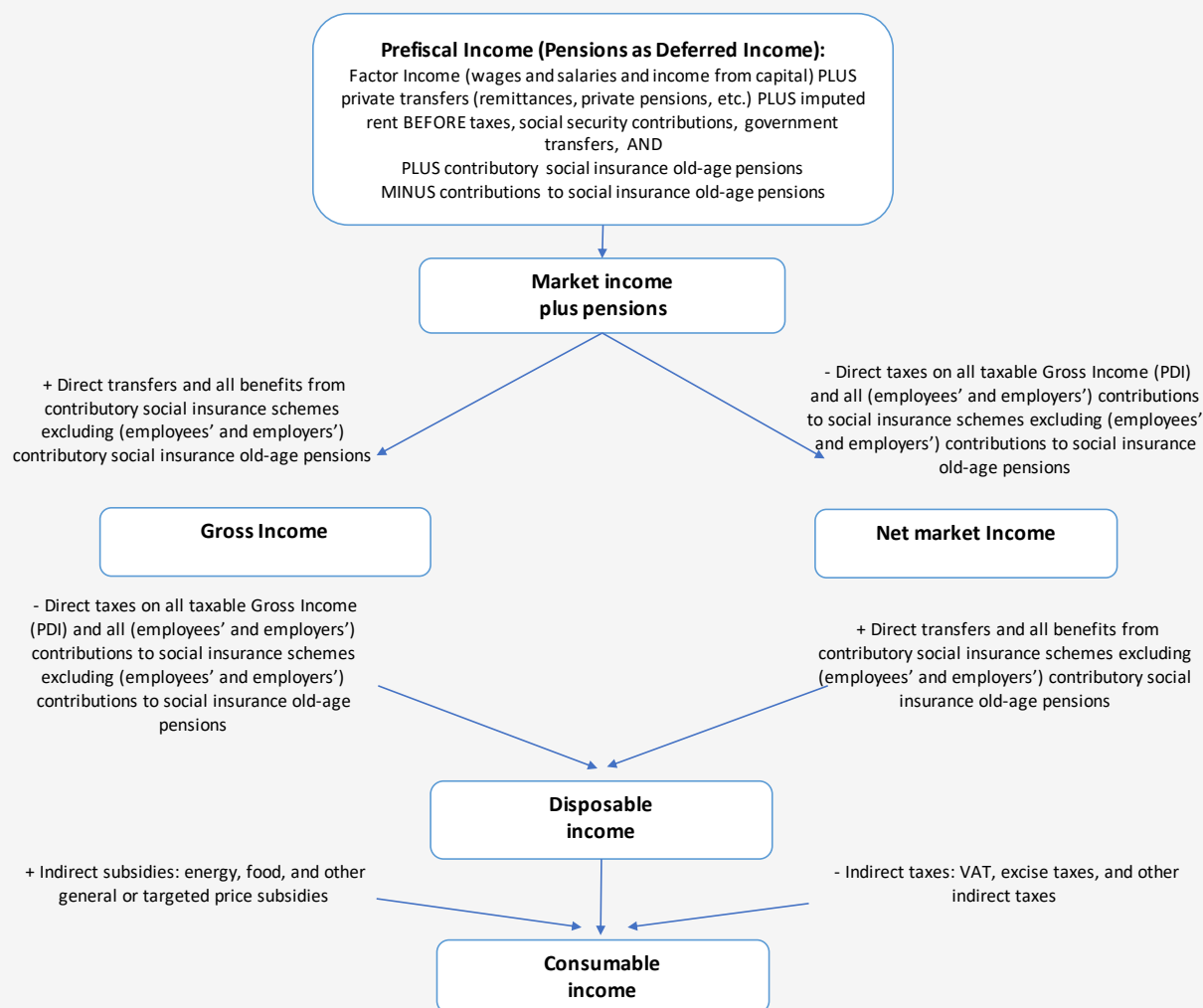
II.

Methodology

Based on the CEQ approach,[2] we implemented a simulation tool to determine the extent to which fiscal policy interventions modify inequality and poverty in the specific context of El Salvador. This allowed us to establish quantitative criteria to determine the redistributive capacity of public spending and taxes and the progressivity or regressivity of potential reforms. To implement the methodology with EHPM 2023, the main concepts of household income were constructed, both those that come from private sources through markets in the absence of fiscal policy and the components of fiscal policy. The following incomes are defined (Figure 6.1):

• Market or pre-fiscal income: Includes salaries and wages, capital income, private transfers, family assistance, private remittances, family allowances, and imputed rent from one's own home.

• Market income plus pensions: Contributory pensions (individual capitalization) are added to the previous concept, and contributions to the pension system are deducted, treating pensions as deferred income (PDI).

• Gross income: Incorporates monetary or quasi-monetary transfers received by public programs.

• Disposable income: Deducts direct taxes, such as personal income tax or others, from the previous income.

• Consumable income: Subtracts indirect taxes from the previous concept and adds subsidies for the consumption of LPG, electricity, and water.

• Final income: Adds the monetized value of transfers from public education services and the health system (net of co-payments) to the previous concept. In this report, we do not compute this final income as it requires a large amount of information on public spending and the production of services in the education and health sectors.

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2. Lustig (2018)

FIGURE 6.1.   CEQ INCOME CONCEPTS

Prefiscal Income (Pensions as Deferred Income):
Factor Income (wages and salaries and income from capital) PLUS
private transfers (remittances, private pensions, etc.) PLUS imputed
rent BEFORE taxes, social security contributions, government
transfers, AND
PLUS contributory social insurance old-age pensions
MINUS contributions to social insurance old-age pensions

**Market income
plus pensions**

+ Direct transfers and all benefits from
contributory social insurance schemes
excluding (employees' and employers')
contributory social insurance old-age pensions

- Direct taxes on all taxable Gross Income (PDI)
and all (employees' and employers') contributions
to social insurance schemes excluding (employees'
and employers') contributions to social insurance
old-age pensions

Gross Income

Net market Income

- Direct taxes on all taxable Gross Income
(PDI) and all (employees' and employers')
contributions to social insurance schemes
excluding (employees' and employers')
contributions to social insurance old-age
pensions

+ Direct transfers and all benefits from
contributory social insurance schemes excluding
(employees' and employers') contributory social
insurance old-age pensions

**Disposable
income**

+ Indirect subsidies: energy, food, and other
general or targeted price subsidies

- Indirect taxes: VAT, excise taxes, and other
indirect taxes

**Consumable
income**

Source: CEQ-Handbook 2018.

III.

Baseline: data sources, assumptions, and selected programs to analyze

3.1 Data sources

The latest available household survey, EHPM 2023, has national, urban, and rural coverage with a sample size of 17,750 households and 56,250 individuals. The data from this survey are disseminated through open media by the Government of El Salvador.[3] It contains demographic data of the population, international migration, educational achievements, housing characteristics, access to basic services, household equipment, expenditure on basic household services, employment and income for people ages 5 and over, labor and non-labor income, agricultural production, domestic and international family remittances, health situation and attention to health services, consumption expenses for education and health, consumption outside the home, food security, and community equipment for recreation. Unlike EHPM 2018, the 2023 version does not have data on the household consumption structure, an aspect that limits the direct obtaining of consumable income.

3.2 Assumptions

- Direct effects of subsidies and indirect taxes. Due to the characteristics of the information available, this exercise considers only the direct effects of state interventions, but not the indirect effects, especially of subsidies. To calculate indirect effects, information is required from supply-use or input-output tables at a level of disaggregation that allows estimating macroeconomic shocks or policy changes, for example, a subsidy on hydrocarbons, which affects the entire economy.

- Whenever there are discrepancies between administrative records and the data obtained by EHPM 2023, the latter prevails. The responses of the informants are considered valid when they mention that they received subsidies for electricity, LPG, and water as well as if they declared receiving transfers from the Comunidades Solidarias (cash transfers program), the Pensión Solidaria Universal (a non-contributory pensions scheme), or other programs. They do not inflate or mark discrepancies with the administrative records of said programs.

- Changes in the behavior of households in the labor supply are not considered when they receive transfers and subsidies. Economic agents are not expected to make economic decisions or changes within the framework of this analysis. In this sense, the results from this exercise can be understood as immediate effects and not necessarily those for the medium or long run.

- Evasion of indirect taxes. Due to the absence of an expenditure structure in EHPM 2023, an aggregate structure of household consumption was estimated indirectly using EHPM 2018. A uniform rate was applied to the goods taxed with this tax and a rate of global evasion equivalent to 40 percent (although this value is arbitrary, it also reflects the exemptions and the effectiveness of the collection of this tax).

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3. Banco Central de Reserva (2023)

3.3 Calculation of the different income concepts

Market income

Following the CEQ methodology, this concept of income was built with the income flows obtained by dependent workers (salary plus payments for overtime, vacation, bonus, commissions, tips), the income of self-employed workers (net of costs), and agricultural income. We also added income from secondary work, salary in kind (food, housing, transportation, private insurance), capital income, interest and dividends, rents (homes, businesses, land) and land leases, business profits, dividends, private transfers, family help from residents, family remittances from abroad and eventual remittances, vehicle depreciation, and imputed rent from one's own home. The last component was estimated from a linear regression of the rents paid, conditional on the characteristics of the home, services and geographical location, and, subsequently, a prediction of the rents for own homes with similar characteristics. This method gives a high value to homes that have better materials, spaces, and services and a lower value to those that do not. This (hedonic) method assumes that the rental housing market adequately reflects the willingness to pay rental income by owners.

Market income plus pensions

The pension system in El Salvador consists of a privately managed defined contribution scheme. EHPM 2023 identifies the questions on retirement, disability, or old age pensions.[4] These flows are added to the previous concept and subtract workers' contributions to the funded pension system.

Gross income

It is obtained by adding the monetary or quasi-monetary transfers received by households, mainly from social protection programs. In El Salvador, there is the Support Program for Solidarity Communities (PACSES) which brings together monetary transfers in rural and urban areas, a universal basic pension, expansion of infrastructure, and the Temporary Income Support Program (PATI).[5]

In the rural areas, PACSES serves families in extreme poverty with boys and girls under 21 years of age or pregnant women who reside in 100 municipalities with the greatest situation of severe and high extreme poverty. The program also covers 412 precarious settlements in 25 municipalities in conditions of extreme poverty. [6] Also, the Universal Basic Pension (Nuestros Mayores Derechos) is a noncontributory pension for older adults. It was established in 2011 and grants US$50 monthly to people ages 70 and over in municipalities of extreme poverty. These programs are identified in EHPM 2023 (question 319: What benefits does the household receive from the government?) and are complemented by the amount received (question 441 option 6: Government cash aid). In turn, other programs were also identified in PATI. Other programs such as the Education Bonus or the Health Bonus were not explicitly identified in EHPM 2023.

Starting with EHPM 2023, it was considered whether the household receives cash transfers from the government (question 441 option 6) and it was tabulated to identify the benefits that the household receives from the government (question 319), including the Rural Solidarity Communities (CSR), the Urban Solidarity Communities (CSU), universal basic pension

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4. See the p440 question of the EHPM 2023 survey questionnaire.
5. ECLAC (2021)
6. UNDP-STP (2012)

(PBU), and others.[7] On the other hand, since there was a significant frequency of households that declared receiving transfers from the government but did not report the amount, it was decided to impute the modal values depending on the program to which they referred.

Disposable income

This income concept was obtained by subtracting, from the previous one, the personal income tax (IRP). The IRP applies to salaried workers who receive remuneration for their main activity with amounts greater than US$60,000 annually or if they have an amount payable. To calculate the taxable salary, social security contributions are subtracted if the worker states

that s/he is affiliated or covered by the ISSS (Salvadoran Institute of Social Security), Teacher Welfare, IPSFA (Institute of Social Welfare of the Military), Collective, Individual, AFP (Pension Fund Administrators), or INPEP (Salvadoran Pensions Institute) (question 422). According to current provisions, the IRP differentiates between brackets of the monthly taxable salary: bracket I, up to US$472 is exempt from tax; bracket II, up to US$895.24 and pays 10 percent on the excess of US$472 plus a fixed fee of US$17.67; bracket III up to US$2038.10 at a rate of 20 percent on the excess of US$894 plus a fee of US$60; and, finally, bracket IV, which applies to higher taxable income at 30 percent on the excess of US$2,038.11 and a fixed fee of US$288.57.

TABLE 6.1.   PERSONAL INCOME TAX WITHHOLDING AMOUNTS

Net monthly wage brackets	Tax rate (%)	Tax is applied over the excess of (US$):	Plus flat fee (US$)
I [0.01 - 472]	0	—	—
II [472.01 - 895.24]	10	472.00	17.67
III [895.25 - 2038.10]	20	894.24	60.00
IV [2038.11 - +]	30	2,038.11	288.57

Source: Ministry of Finance

To estimate this income, we consider the affirmative answer regarding the payment to the IRP,[8] and the taxable salary is obtained by subtracting the contribution amounts established

in the Social Security Law: Net_salary = gross salary − (AFP + ISSS/IPSFA/Teachers' Welfare), and then the IRP table is applied.

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7.   In this last option of this question, they were reclassified to the CSR bonds (cod=3), CSU (cod=4) and the
      agricultural package.
8.   Question 424: "Do you deduct income tax from your salary or salary?"

Consumable income

To obtain consumable income, we subtract the value of indirect taxes paid by households, mainly the value added tax (VAT), and we add subsidies for the consumption of electricity, gas, and water. These steps, particularly important for the analysis, are detailed as follows:

a. VAT. It is applied to goods and services at the time of purchase, transfer of ownership, or consumption of goods and services at a rate of 13 percent. However, health services provided by public institutions, rent for housing, public and private education and teaching, electricity, water, public transportation, and contributions to the pension fund for purchases within the framework of the agricultural package are exempt. On the other hand, equipment and machinery and leases, financial services, insurance and reinsurance, transportation, water, electrical energy and communications, culture and sports, and games of chance have a zero rate.[9]

Due to the lack of a complete consumption expenditure module in EHPM 2023, the expenditure information from EHPM 2018 was used as the basis for the imputation of expenses. Two groups of expenses were distinguished: (i) expenses on education, health, housing, and food consumption at work, also observable in EHPM 2023 (GA), and (ii) expenses on food and others that were not investigated in EHPM 2023 (GB). Subsequently, the proportion of observable expenses was calculated with respect to the total household consumption expenditure in 2018 (EA= GA/Total Expenditure) and, through a linear regression model, the parameters "b" that influence the proportion of observable expenses: EA= $Xb + \varepsilon$ where X are variables that characterize the composition of the household and ε is a random component. Once the goodness of fit of the linear model

was analyzed, a linear prediction of EA was made, conditional on the same variables 'X' for 2023. With the prediction of EA, Gb and the total household expenditure in 2023 were obtained. Finally, assuming an evasion rate (and exemptions), the VAT (13 percent) was calculated on taxable consumption and the final rate as a proportion of the household's disposable income.

b. Electricity subsidy. The residential subsidy for electricity consumption has been modified to keep the amounts demanded from the Treasury low. Thus, in July 2018, the way it is calculated was modified, so that it reaches a maximum monthly fixed amount of US$ 5 per household, which would only be granted if the average consumption of the last six months is between 1 and 105 kWh. This provision, established in Article 16-A of the FINET (National Investment Fund Electricity and Telecommunications) Law Regulations, is still in force. Also, since August 2018, Ministry of Economy has been requesting every month from the electricity distributors the consumers' database with the average electricity consumption of their previous six months. While establishing the maximum amount of US$5, a purge of beneficiaries was also carried out. For the estimate, EHPM 2023 considered data on the availability of electrical energy (question 301), whether it receives government aid for subsidy for this service (question 319), whether it pays for electricity services (question 328-02), and the expenses in this service. The subsidy is defined as the difference between the international and domestic price in energy generation, and three steps were carried out: (i) missing data on electricity expenditure were completed from a linear regression of expenses regarding home equipment variables (number of radios, sound equipment, TV, video, refrigerator) and other characteristics, (ii) calculation of the kWh consumed by households based on electricity expenditure, with an average

9. Rastelleti and Saravia (2023)

relationship between electricity tariffs and effective household consumption, and (iii) estimation of the subsidy with the parameters and consumption tariff limits.

c. LPG subsidy.   Before 2011, the subsidy was granted to all households purchasing LPG; subsequently, instead of subsidizing prices at the point of sale, with the introduction of an identification card, the State gave each household the amount of the subsidy for US$ 8.5, and to be eligible, the household should consume less than 200 kWh in electricity consumption. According to the EHPM 2023 questionnaire, there are questions about the use of LPG as fuel for cooking (question 320), whether you received an LPG subsidy (question 319 of the 2023 household survey), and the expenditure on LPG is reported (question 328, which includes the spending on propane gas). Once the expense was converted to quantities or 25 kg balls, the subsidy was estimated using domestic prices (average of US$4.11) and the international price (average of US$12.50). The subsidy was calculated based on the period average, instead of applying the differences according to the months in which the survey was carried out.

d. Water subsidy. This subsidy is applied based on the level of drinking water consumption under the form of price discrimination. This assigns a fixed charge of US$2.29 to consumption that does not exceed 10 m3 per month and, in accordance with a table of prices per cubic meter consumed, up to 40 m3 benefits households with consumption between 0 to 40 m3 with a lower price compared to the production cost, which amounts to US$1.25, according to the National Administration of Aqueducts and Sewers (ANDA). The subsidy was estimated with the information from EHPM 2023, referring to the availability of water (question 312), the expenditure on this service (question 328), and the declaration if the household receives the subsidy (question 319). The calculation included three stages: (i) expenditure ranges and prices per m3, (ii) based on the calculation of the average conversion, the real bill was estimated according to the consumption brackets, and (iii) the subsidy was calculated as the difference between the actual bill and the expenditure on water services.

IV.

Simulation of scenarios

Based on the data mentioned above, assumptions, and concepts, we built four simulation scenarios changing the parameters of policies and interventions to generate fiscal reforms that would affect the population. We performed this through both the expansion of social transfers and subsidies, so that expected changes are obtained in poverty and human well-being. Recently, the government adopted a 23 percent increase in the electricity tariff for domestic consumption above 300 kWh, so all scenarios already incorporate this change. The following changes in tax policies were selected for this report:

- SIM-1: LPG, water, and electricity subsidies are removed. Therefore, the entire subsidy is considered a tax saving.

- SIM-2: Subsidies are removed and transfers increase by 3. Instead of fiscal savings, these resources are used to compensate households that currently receive cash transfers and are tripled throughout the year.

- SIM-3: Subsidies are targeted only for household consumption less than 105 kWh. If the elimination of the subsidy is considered radical, then this scenario considers a drastic reduction, so that the beneficiaries decrease, only for those households that have low levels of electricity consumption (as a proxy of wealth).

- SIM-4: Subsidies are targeted and transfers increase coverage to households with children under 5 years of age in those communities or areas where there are currently transfer recipients.

Under the CEQ methodology, the simulations affect the different income concepts according to the tax reforms that are incorporated. Since the simulations modify subsidies and social transfers, Sim-2 and Sim-3 affect gross income and consumable income, while Sim-1 and Sim-4 are reflected only in consumable income. To evaluate the results of changes in fiscal policy, the emphasis is placed on the variations in consumable income with respect to the values in the baseline.

V.

Results

Based on the construction of the income aggregates under the CEQ framework, with the assumptions and methodology adopted, we report (i) the concentration measures of fiscal policy interventions in the base scenario and (ii) the changes in poverty and inequality measures in each scenario with respect to the baseline.

Intervention concentration indexes

In the baseline scenario, as the fiscal incidence of the interventions on the distribution of households in El Salvador was estimated, it is observed that the personal income tax (PIT) and VAT are those that have a positive relationship with the level of household income (establishing the disposable income as the basis of organization), while all transfers and the water subsidy are also positive. With indexes close to zero, which indicate neutrality with respect to income, the LPG subsidy is observed, while subsidies for electricity, CSR, and PBU are inversely related to income. In summary, the design of transfers and subsidies has a highly differentiated impact on households.

FIGURE 6.2. CONCENTRATION INDEXES OF SELECTED INTERVENTIONS
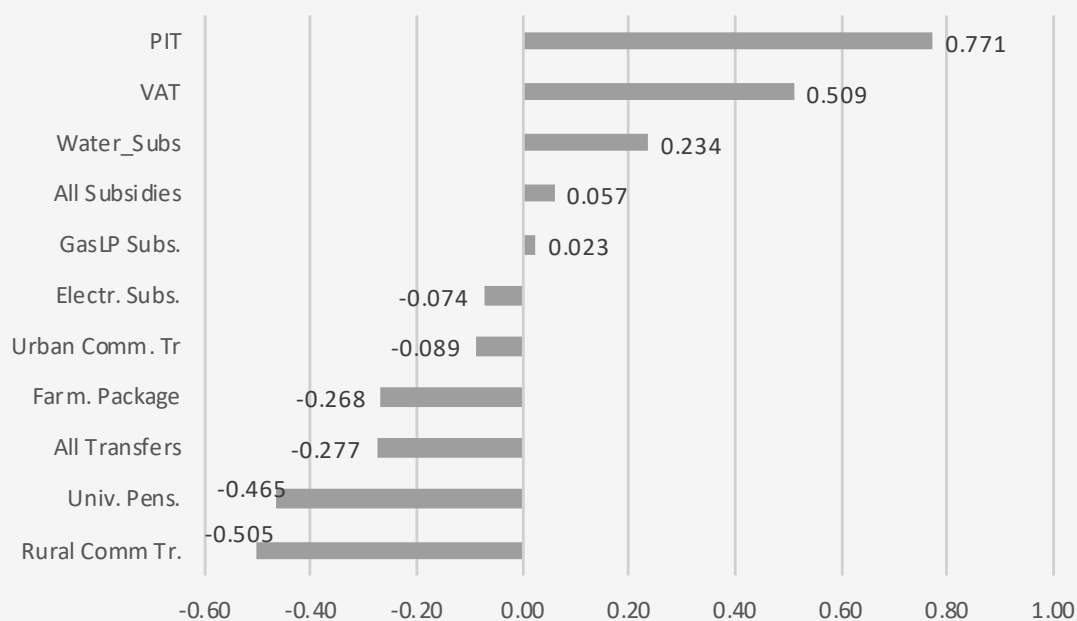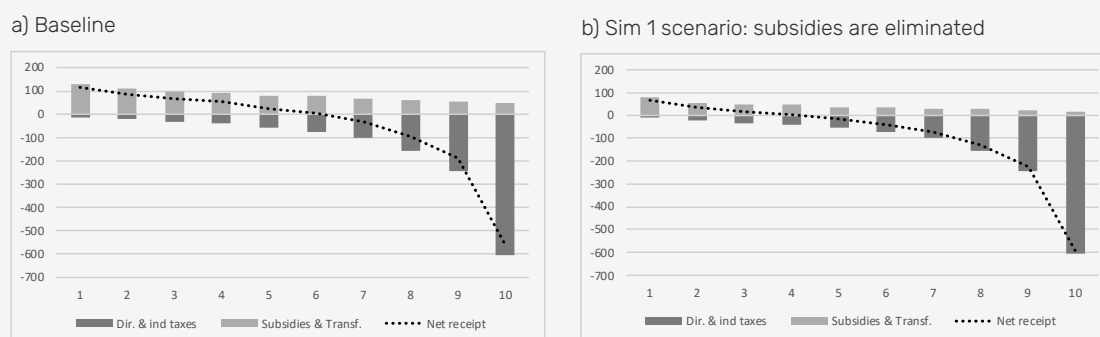

Source: EHPM 2023.

When households are distributed according to market income plus pensions, in the baseline scenario it is observed that from the 7th decile onward, households are net payers (where taxes paid are greater than transfers and subsidies received). However, when basic services subsidies are eliminated, the 5th and 6th deciles are net payers. On the other hand, the base scenario shows that subsidies especially reach a large part of the population; consequently, changes aimed at eliminating subsidies may be radical and affect especially the lower deciles.

FIGURE 6.3. TAXPAYERS AND NET BENEFICIARIES BY MARKET INCOME PLUS PENSIONS DECILE (US$)

a) Baseline

b) Sim 1 scenario: subsidies are eliminated

Source: EHPM 2023.

Impact on household well-being

In the baseline scenario of 2023, El Salvador had an annual per capita income of US$2,886 under the definition of consumable income, which corresponds to a poverty rate of 23.08 percent, extreme poverty was 7.04 percent, and the Gini index was 0.421 (Table 5.2), values that are close to the official ones issued by the Government of El Salvador with its own definition of household income.

With Sim-1, which implies the elimination of all subsidies, an increase of 23 percent for the electricity tariff for consumption greater than 300 kWh is observed, then consumable income reduces by −1.32 percent, the incidence of poverty grows by almost 5 percent, and extreme poverty increases by 7 percent, with growing inequality. Fiscal savings constitute an amount equivalent to total monetary transfers to households.

Suppose the previous scenario is compensated with tripling transfers to the solidarity communities, PBU, and agricultural package for the same households. In that case (Sim-2), the impact of eliminating subsidies is attenuated. Under this scenario, the poverty headcount rises by 0.27 percent and extreme poverty by almost 0.06 percent.

Instead of eliminating subsidies, it now targets households with low levels of electricity consumption (Sim-3). This scenario shows an increase in poverty by 1.71 percent and in extreme poverty by 1.17 percent. As a result of these changes, about 8,000 households would fall into poverty and 1,700 into extreme poverty.

Finally, if an extension of the transfer programs is adopted, targeting households with children in the same communities and areas where there are already beneficiaries of the transfer programs, then social protection would be extended and about 7,000 households would leave poverty and 6,500 would leave extreme poverty. Of course, it requires a drastic reform to expand the transfers.

TABLE 6.2.   POVERTY INEQUALITY MEASURES SELECTED IN THE BASE SCENARIO
AND SIMULATION OF FISCAL REFORMS, 2023

	Baseline	Sim-1	Sim-2	Sim-3	Sim-4
		Subsidies removed	**Subsidies removed and increase transfers by 3**	**Targeted subsidies**	**Targeted subsidies and increase coverage transfers**
Per capita consumable income (yearly US$)	2,886	2,848	2,868	2,873	2,889
Poverty headcount index (%)	23.08	24.13	23.14	23.47	22.73
Poverty gap index (%)	8.72	9.34	8.78	8.90	8.44
Extreme poverty headcount (%)	7.04	7.55	7.04	7.12	6.71
Extreme poverty gap (%)	3.07	3.45	3.15	3.18	2.94
Inequality Gini Index	0.416	0.418	0.413	0.416	0.412
p90/10	7.233	7.322	7.113	7.264	7.040
p90/50	2.540	2.561	2.526	2.539	2.518
p10/50	0.351	0.350	0.355	0.350	0.358
p75/25	2.735	2.761	2.687	2.742	2.682
Changes with respect to baseline scenario					
Per capita consumable income (% change)		−1.32%	−0.60%	−0.44%	0.12%
Poverty headcount index (pp)		1.06	0.06	0.39	−0.35
Poverty gap index (pp)		0.62	0.06	0,17	−0.28
Extreme poverty headcount (pp)		0.52	0.00	0.08	−0.32
Extreme poverty gap (pp)		0,38	0.09	0.12	−0.13
Inequality Gini Index		0.232	−0.245	0.035	−0.336
p90/10		0.088	−0.121	0.030	−0.193
p90/50		0.022	−0.013	0.000	−0.021
p10/50		−0.001	0.004	−0.002	0.007
p75/25		0.026	−0.048	0,007	−0.052
Number of households (thousands)		2.011	2.011	2.011	2.011
Changes in poor households (thousands)		21.2	1.3	7.9	(7.0)
Changes in extreme poor households (thousands)		10.4	0.1	1.7	(6.5)

Source: EHPM 2023.

Note:

All simulations consider a 23 percent increase in the electricity rate for households' consumption greater than 300 kWh.

SIM-1: LPG, water, and electricity subsidies are removed.SIM-2: Subsidies are removed and transfers increase by three.

SIM-3: Subsidies are targeted only for household consumption less than 105 kWh.

SIM-4: Subsidies are targeted and transfers increase coverage (households with children under 5 years of age in communities or areas where there are currently transfer recipients).

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